

**STATE OF MARYLAND**  
**MARYLAND DEPARTMENT OF THE ENVIRONMENT**  
**Robert M. Summers, Ph. D., Secretary**

**BILL NO:** Senate Bill 360

**COMMITTEE:** Education, Health, and Environmental Affairs

**POSITION:** Oppose

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**TITLE:** Natural Gas – Hydraulic Fracturing -- Prohibition

**BILL ANALYSIS:** The bill would prohibit a person from engaging in hydraulic fracturing of a well for the exploration or production of natural gas in Maryland. Hydraulic fracturing is a method of well stimulation that expands existing fractures in the target formation and opens new fractures so gas can flow from the target formation into the well and be captured. The method is commonly used for tight shale gas deposits, such as Marcellus Shale.

**POSITION AND RATIONALE:** MDE opposes SB 360. Under Governor O'Malley's Marcellus Shale Safe Drilling Initiative, the investigation of whether and how hydraulic fracturing for shale gas production can be done in Maryland without unacceptable risk to public health or the environment is well underway. This investigation includes all aspects of hydraulic fracturing and the risks associated with it. There is no need to prejudge the outcome by prohibiting hydraulic fracturing at this time.

**Additional Background**

The Marcellus Shale, which contains natural gas, is a black shale, or rock formation, found throughout the northern Appalachian Basin. In Maryland, the Marcellus Shale formation is located within western Maryland in Washington, Allegany and Garrett Counties, approximately one mile beneath the surface. The only anticipated areas of gas production in the Marcellus in Maryland are Garrett County and western Allegany County. Gas-containing shale may be present in other parts of the State, but those formations have not been quantitatively assessed.

Gas is extracted from shale by drilling down vertically from the surface until the drill bit approaches the shale, turning the bit and drilling horizontally through the shale formation, and then using a technique called hydraulic fracturing or "fracking" to release the gas. As many as 7 million gallons of fracking fluid are needed to frack a single horizontal well. Fracking fluid contains, by weight, about 90 % water, about 9% sand or other small particles, and about 1% or less of a variety of chemical additives. The chemicals have attributes that facilitate fracking, such as reducing friction, acting as gelling agents, inhibiting scale, and eliminating bacteria in the water. Fracking fluid is sent into the casing of the well under high pressure and out through holes in the casing into the rock. This causes the shale layers to crack and allows the gas to enter the casing. The sand keeps the cracks from closing again. When the pressure is released, approximately 10 to 30% of the fracking fluid returns through the well to the surface. The returning fluid, or flowback, contains constituents that were in the formation and is extremely salty. In some instances, wastewater continues to emerge from the well after production begins. This is referred to as "produced water". Both types of wastewater can contain potentially harmful pollutants, including salts, dissolved metals, organic hydrocarbons, residual fracking additives, and naturally occurring radioactive material (NORM).

Although the gas industry maintains that fracking is safe, some people and organizations insist that it poses significant risks to human health and the environment, and especially to drinking water sources. If the casing or cement fails, there can be a release of methane, drilling fluids, fracturing fluids, and flowback, all of which could contaminate groundwater. Routine practices of site preparation, drilling, fracturing and completion, and storage, transportation and disposal of fracturing fluids and flowback carry a risk of contamination to the air, surface water and groundwater. Numerous studies are underway to evaluate the potential risks.

Practices that can reduce emissions of pollutants are continually being developed and refined, and some are being incorporated into regulation. For example, EPA recently adopted regulations that will mandate the use

of certain methods of well completion that greatly reduce the amount of methane released to the environment.

On June 6, 2011, Governor O'Malley signed an Executive Order establishing the Marcellus Shale Safe Drilling Initiative. This initiative is to assist State policymakers and regulators in determining whether and how gas production from the Marcellus shale in Maryland can be accomplished without unacceptable risks of adverse impacts to public health, safety, the environment and natural resources.

The Executive Order requires three reports. The first, on sources of revenue and standards of liability, was issued in December 2011. The second, on Best Practices, was issued in draft in June 2013. The Departments received more than 4,000 comments on the draft report. The Departments are preparing a response to comments and will issue a final report in the Spring of 2014. The third and final report, due August 2014, will integrate the results of all the studies and research.

Outside contractors are performing some of the work, including an economic study, a public health study and a report on air emissions and monitoring. State agencies are preparing a risk assessment, as well as an evaluation of traffic impacts and emergency response capabilities.

Maryland has not issued any permits for drilling and fracking in the Marcellus Shale. At this time, there are no pending applications.

**FOR MORE INFORMATION,**  
**CONTACT JEFFREY FRETWELL**  
**410-260-6301 ANNAPOLIS**  
**410-537-3537 BALTIMORE**